

Patent Claims:

1. An actuating unit for an electromechanically actuated disc brake for use with automotive vehicles, which is disposed on a brake caliper wherein two friction linings (4,5) are disposed in a manner limitedly displaceable, cooperating with respectively one side face of a brake disc (6), with one (4) of the said friction linings (4,5) by means of an actuating element (15), through the actuating unit, being movable into engagement with the brake disc directly, and the other (5) of said friction linings (4,5) being movable into engagement with the brake disc (6) through the action of a reaction force applied by the brake caliper, wherein the actuating unit comprises an electric motor (10) and a reduction gear (2) operatively disposed between the electric motor (10) and the actuating element (15), which (reduction gear) is formed of a threaded drive accommodated by a guide piece (12) axially supported on the brake caliper or a gearbox housing (2) connected to the brake caliper, characterized in that provided between the guide piece (12) and the brake caliper or the gearbox housing (2) connected to the brake caliper is a sensor device (24) for sensing the reaction force resulting from the actuating force applied by the actuating unit (10, 2).
2. An actuating unit according to claim 1, characterized in that the sensor device (24), on the one hand, is connected, in a form-locking manner, to the gearbox housing (2) and, on the other hand, to the guide piece (12) such that the sensor device is axially locked in the gearbox housing (2).
3. An actuating unit according to claims 1 or 2, characterized in that the sensor device (24) comprises means (41a-c) for radially guiding the guide piece (12).
4. An actuating unit according to any one of claims 1 to 3, characterized in that the sensor device (24) comprises an annular holder (37) on which are circumferentially distributed three pressure-measuring elements (38a-c).

5. An actuating unit according to claim 4,
characterized in that the annular holder (37) is made of plastic material.
6. An actuating unit according to claims 4 or 5,
characterized in that the pressure-measuring elements (38a-c) are of a square-type
configuration and are provided with strain gauge faces (42) disposed in a plane
extending in a direction normal to the admission of the reaction force.
7. An actuating unit according to claim 5,
characterized in that the annular holder (37) comprises contacting means (44) for
contacting the strain gauge faces (42).
8. An actuating unit according to claim 6,
characterized in that the contacting means (44) are formed of a punched grid injection-
molded from plastic material, enabling electric signals to be communicated and being
connected by thin-wire bonds (45) to the strain gauge faces (42).
9. An actuating unit according to any one of claims 4 through 8,
characterized in that the annular holder (37) is provided with an electric plug (43) for
connection of the strain gauge faces (42).
10. An actuating unit according to claim 9,
characterized in that the electric plug (43) comprises an electronic analyzer.
11. An actuating unit according to any one of claims 6 through 10,
characterized in that the strain gauge faces (42) are bridge-circuited.
12. An actuating unit for an electromechanically actuated disc brake for use with
automotive vehicles, which is disposed on a brake caliper accommodating two friction
linings in a manner limitedly displaceable, cooperating with respectively one side face of
a brake disc, with one of the said friction linings, by means of an actuating element,
through the actuating unit, being brought into engagement with the brake disc directly,
and the other of said friction linings being brought into engagement with the brake disc

through the action of a reaction force applied by the brake caliper, wherein the actuating unit comprises an electric motor and a reduction gear operatively disposed between the electric motor and the actuating element, which (reduction gear) comprises a threaded drive accommodated by a guide piece (12) axially supported on the brake caliper or a gearbox housing (2) connected to the brake caliper, on which guide piece is supported a spindle of the threaded drive, with an axial bearing being disposed therebetween,

characterized in that a bearing ring (51) of the axial bearing (26) is designed (formed) as a component part of a sensor device (24), which is provided for sensing the reaction force resulting from the actuating force applied by the actuating unit.